

of the
MOSSES
of
NEW YORK
STATE

By Edwin H. Ketchledge

Temporary Museum Expert
New York State Museum and Science Service

NEW YORK STATE MUSEUM

BULLETIN NUMBER 363

The University of the State of New York
The State Education Department

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Cover Illustration: The drawing of Fissidens taxifolius, a widespread species in New York State, was prepared by Theodore C. Bain of Schenectady, New York.

CHECKLIST OF THE MOSSES OF NEW YORK STATE

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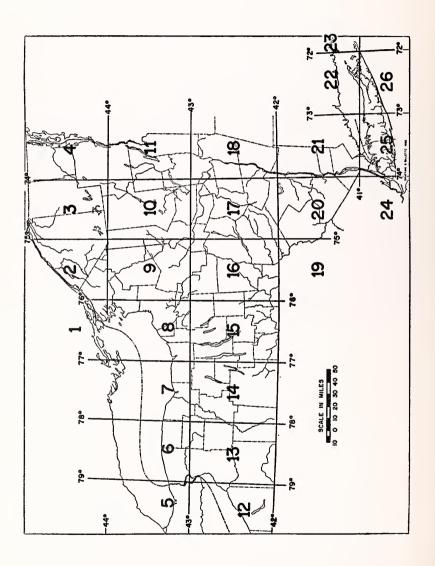
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PREFACE

In accordance with the duty of the New York State Museum and Science Service to study the living organisms of the State and to report their natural history, it is proposed to issue a series of checklists on various biota occurring in New York. These checklists will report the taxonomic composition of each group and will indicate the distribution of the component members within the State. It is hoped that the checklists will encourage interested persons to aid in the biological exploration of poorly known districts. Such participation by all concerned is essential to the preparation of adequate floras and faunas for New York State.

This is the first of such checklists. It represents the first accounting of the mosses of the State since 1866.

WILLIAM N. FENTON
Assistant Commissioner for
State Museum and Science Service



CHECKLIST OF THE MOSSES OF NEW YORK STATE

By
Edwin H. Ketchledge
Temporary Museum Expert
New York State Museum and Science Service*

INTRODUCTION

This checklist of the mosses of New York State is a progress report summarizing present knowledge of the distribution of mosses within New York. It serves as a forerunner to a State Moss Flora and is presented now with the hope of stimulating latent bryological interest among fellow botanists and students of New York vegetation.

The present study began in 1949 as a joint project of the author and the Botany Section of the State Museum. Through the agency of the Graduate Student Honorarium program established by the State Science Service, the author initiated a survey of the moss flora of the Adirondack region. Following two summers of fieldwork and after a systematic review of botanical literature, a preliminary list of mosses was prepared, reporting 320 species, excepting the genus *Sphagnum*, from northern New York. In 1951, the study was expanded to include the entire State. On continued field and herbarium research, likewise sponsored by the Honorarium program, it was revealed that slightly over 400 species of true mosses occur in New York. During the ensuing four years, approximately eight thousand specimens were examined and hundreds of stations added to the catalog of State mosses.

The known moss flora of New York State consists of 3 orders, 45 families, 147 genera, 439 species and 61 varieties. This is a larger number of species than that reported thus far for any other political division in the United States. Within the State, mosses vary greatly in abundance and frequency. Many species exhibit wide ecological amplitude and are relatively common in all sections of the State: thus, Mnium cuspidatum and Ceratodon purpureus occur in all 26 districts. Numerous other species appear in New York solely as outliers of subtropical or arctic ranges. For example, Aulacomnium turgidum, a weedy species of arctic regions, is known in New York only from Mount Marcy and Pogonatum brachyphyllum, a subtropical Coastal

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Plain species, occurs only at Orient, Long Island. The majority of New York mosses, however, are boreal or Temperate Zone species and occur abundantly in the State; their apparent absence from various districts reflects, for the most part, the lack of sufficient fieldwork in those sections of New York, rather than poverty of the moss flora itself.

The distribution-districts used in the checklist are based on "square" degrees of latitude and longitude and are numbered consecutively beginning in the northwest corner of the State (see map, frontispiece). The following symbols indicate the presence of species and varieties in the districts:

X specimens seen and examined

L authentic literature reports

M personal communications from monographers

V district approximate

? specimen reported, but locality questioned

One taxon,* typical Fontinalis antipyretica, is reported for New York by Welch (personal communication), but the exact locations of the stations are unknown.

To date, the investigation reveals 4,035 district records for New York mosses, distributed among the districts as follows:

District:	1	7	12	19		From 1 to 50 species and varieties
District:	2	5	8	23		From 51 to 100 species and varieties
District:	6	14	16	21	22 26	From 101 to 150 species and varieties
District:	3	9	24			From 151 to 200 species and varieties
District:	10	13	20	25		From 201 to 250 species and varieties
District:	4	11	15	17	18	From 251 to 300 species and varieties

In the checklist, families are, in general, arranged according to Brotherus in Die natürlichen Pflanzenfamilien, Ed. 2, 1924-25; within families, the genera, species and varieties appear alphabetically. Taxonomy of the Sphagnales follows Andrews in North American Flora, v. 15, pt. 1, 1913. For the most part, taxonomy of the Andreaeales and Bryales agrees with Moss Flora of North America, North of Mexico, Grout et al., 1928-40. Binomials differing from those of the floras are designated by an asterisk and may be found listed with the corresponding flora name at the end of the checklist proper.

Wherever consistent with sound taxonomic practice, properly described varieties have been maintained throughout the checklist, with minor exceptions. Taxonomic validity of these entities will be more

^{*}A taxon is a taxonomic category of any rank.

thoroughly reviewed in a forthcoming flora, now in preparation. For the time being, however, three new combinations must be proposed, albeit reluctantly, in order to incorporate three varieties in the checklist. The combinations are as follows:

Eurhynchium pulchellum var. scabrisetum (Grout) comb. nov. Eurhynchium strigosum var. scabrisetum Grout, Bull. Torr. Bot. Club 25: 241. 1898.

Hypnum lindbergii var. demissum (Schimp.) comb. nov. Hypnum arcuatum var. demissum Schimp., Syn. (Ed. 2) 758. 1876.

Hypnum lindbergii var. elatum (Schimp.) comb. nov. Hypnum arcuatum var. elatum Schimp., loc. cit.

Throughout the course of the investigation, the author received gratifying assistance and advice from a number of colleagues and fellow bryologists. Dr. William C. Steere, professor of botany and dean of the Graduate Division, Stanford University, aided the author in many determinations and was a constant source of personal and professional guidance. Dr. Howard A. Crum, curator of the Cryptogamic Herbarium, National Museum of Canada, Ottawa, likewise served both as friend and professional counselor. Dr. A. LeRoy Andrews, dean of American bryologists and authority on Sphagnum, has kindly consented to the inclusion of his determinations of New York State specimens in the checklist; no other records are cited for this genus.

Mr. Roy Latham, Orient, New York, made his personal collection available at this time, greatly augmenting knowledge of the moss flora of Long Island. The author also owes a debt of gratitude to Stanley Jay Smith, curator of botany of the New York State Museum and Science Service; without his unfailing support, assistance on field trips and help in the preparation of the checklist, this study would not now be ready.

From time to time, the author has enlisted the aid of various specialists and monographers and wishes now to acknowledge their many kindnesses, including identifications, especially of A. LeRoy Andrews, professor emeritus of German, and honorary curator of the bryological collection in the Wiegand Herbarium of Cornell University, Ithaca (Sphagnaceae, Bryaceae and Mniaceae); Geneva Sayre, chairman of the Department of Biology, Russell Sage College, Troy (Grimmiaceae, Aulacomniaceae and Timmiaceae); Winona H. Welch, professor of botany, DePauw University, Greencastle, Indiana

(Fontinalaceae), and William T. Winne, professor of biology, Union College, Schenectady (aquatic mosses).

The directors and staffs of several herbaria kindly placed materials and facilities at the author's disposal during the study, for which he is deeply grateful; these include the New York Botanical Garden, the Buffalo Museum of Natural Science, Cornell University, State University of New York College of Forestry at Syracuse University, Union College, University of Michigan and Stanford University. Acknowledgments would not be complete without a special note of thanks to the director and staff members of the New York State Museum and Science Service, especially E. C. Ogden, State botanist. They, from the beginning, encouraged the study and rendered both financial and logistic support.

It is hoped that publication of this checklist will stimulate bryologists and other botanists and naturalists to collect mosses, particularly in those districts which have been poorly explored bryologically. Specimens, properly labeled with collection data (habitat, locality and date of collection) may be sent to the State Herbarium, New York State Museum and Science Service, Albany. The staff there will see that they are verified or identified by competent authorities.

			DISTRICTS (See Map)	e Ma	(d						
	1 2 3 4 5	6 7 8	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	15	16 17	18 19 2	20 21	22 2	3 24	25 2	97
SPHAGNALES SPHAGNACEAE											
Sphagnum capillaceum (Weiss) Schrank	×	××		×	×	×	× :	×	þ	×	××
v. tenellum (Schimp.) Andrewscentrale C. Jens.*	× × ×	× × × × ×	×××	XXX	××	×	× ×	×	4		× ×
cuspidatum Ehrh		XXX				×		×	×	×	××
v. torreyi (Sull.) Braithw			,		X	X		X	XX	×	< ×
dusenii C. Jens.	×	×× ×	××	××			×	×	×	×	×
fuscum (Schimp.) H. Klinggr	**	× × ×	×× ××	××	××	××					
henryense Warnstimbricatum Hornsch						;		×	×		××
v. affine (Ren. & Card.) Warnst		×	×	×	x x	$\Join \mid$	× ×	\Join	×	×	×І
lindbergii Schimp	×										×

									^	IST	UCT	s (S	DISTRICTS (See Map)	fap)	_								
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SPHAGNALES					}									1									
Sphagnum—(Continued) magellanicum Brid. palustre L. papillosum Lindb. v. flavicomans (Card.) Andrews.	×	××××	***		×××	×	××	×××	××××	×××	××	× ××	×××	×××	××	××	×	××××	, , ,	× ×	× ×	×××	×××××
pulchrum (Lindb.) Warnst		××× >	XXXXX		× >	×	××	×××	×××××		×	× ×	×××	××	XXXX	$\times \times$		×××	7,77	××	× ×	××	* *
squarrosum Cromesubsecundum Nees	×	4 X X			4 ×		×			K K K	1 71	× ∢×		××		$\times \times$	$\times \times$	××	×	×	×	×	$\times \times$
tabulare Sull	×	×××	XXXXX		××		××	××	××	×××		×× ×××	XXX	×	×××	× ×		×		×	×	$ \hspace{.05cm} $	×

					DISTR	DISTRICTS (See Map)	See M	(ap)				
	1 2 3 4 5	9	7 8 9	10	11 12	13	4 15	16	17 18	19 20	21 22	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
ANDREAEALES ANDREAEACEAE									•	-		
Andreaea rothii Web. & Mohr	>	×		×	×	×			×	×	×	×
v. crassilletvia (Diucii) Molikelli rupestris Hedw	X X X .		X	×	×	×			хх			x
BRYALES FISSIDENTACEAE												
Fissidens adiantoides Hedw	XXXX	×	X X X	××	××	X X X X X	××	L X		××	××	X
v. incurvus (Stark ex Web. & Mohr) Hüben cristatus Wils debilis Schwaegr *	X X X X	××	×	XXX	×	××	××		× × ×		×	××
exilis Hedw.* grandifrons Brid.	X	1	X X		۸.	××	××	×	×			
minutulus Sull	×		×	X	Г	×	×	×	X	X	* >	X X
obtusiolius Wilsosmundioides Hedw	×		X	X	×	×	×		×	×		×

	1 2 3 4 5	8 1 9	DISTRICTS (See Map)	(See Ma	tp) 16 17 18 19	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
BRYALES FISSIDENTACEAE						
Fissidens—(Continued) subbasilaris Hedw taxifolius Hedw viridulus (Web. & Mohr) Wahlenb	X L	X X X	r x	×××	X X X	X X X
ARCHIDIACEAE						
Archidium alternifolium (Hedw.) Schimpohioense Schimp						N X
DITRICHACEAE						
Bruchia flexuosa (Sw.) C. Müllsullivantii Aust					×	J M
purpureus (Hedw.) Brid	$X \times X \times X$	$X \times X \times X$	$X \times X \times X$		$X \times X \times X$	XXXXXX
capillaceum (Hedw.) B. S. G	XX		۲.			-
Ditrichum lineare (Sw.) Lindb	X	X	X		×	X X X X X

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	,	1	DISTRI	DISTRICTS (See Map)	May	0)	5	5	20	100
	1 2 3 4 5	5 0 7 8 9 10	T .	2 IS 14	CT	9 10 11 12 13 14 13 10 11 18 19 20 21 22 23 24 23 20	07 /	77 77	47 C7	7 67
DITRICHACEAE										
Ditrichum—(Continued) pallidum (Hedw.) Hampe pusillum (Hedw.) E. G. Britt	X X	X	××	x x x x	××	X X	××	X X X X X X X X X X X X X X X X X X X	L X X	××
Pleuridium palustre (Br. & Schimp.) B. S. G		×××	×	×	×	×	×	r ×	××	××
Saelania glaucescens (Hedw.) Broth	×	×	×		×	×	\bowtie	×		
I rematodon ambiguus (Hedw.) Hornsch	××	X	×	×		хх				×
SELIGERIACEAE										
Blindia acuta (Hedw.) B. S. G	××					×				
calcarea (Hedw.) B. S. G	х х	× × ×	~ ×	>	×					

	1 2 3 4 5	6 2 8 9	DI 10 1	DISTRICTS (See Map) 10 11 12 13 14 15 16 17 18 19 20	(lab)	18 19 2	21 22	23 24 25	26
DICRANACEAE							ij		
Arctoa blyttii (B. S. G.) Grout fulvella (Dicks.) B. S. G Starkei (Web. & Mohr) Grout Dichodontium pellucidum (Hedw.) Schimp Dicranella cerviculata (Hedw.) Schimp	× × × × ×		7 7	× ×	>			<i>~</i> .	×
heteromalla (Hedw.) Schimp. v. orthocarpa (Hedw.) Paris. rufescens (Smith) Schimp. schreberiana (Hedw.) Schimp.* subulata (Hedw.) Schimp. varia (Hedw.) Schimp.	X A X F X	X	XXXX X	X XX X	X	X	X	XXX X	××
Dicranodontium denudatum (Brid.) E. G. Britt. Dicranoweisia crispula (Hedw.) Lindb. Dicranum bergeri Bland. bonjeanii De Not.	x	ж	L K K	× ×		XXX	XXL X	×	×

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								DISTRICTS (See Map)	UCTS	Se (Se	e M	ap)									
	1 2	3 4	w	9	7	8		10 11 12 13 14 15 16 17 18 19 20	12 1	3 14	15	16	17	8	9 20	21	22	23	24 25		26
DICRANACEAE																					1
Dicranum—(Continued) drummondii C. Müll.		~					×	×					×	×	×						
elongatum Schleichflagellare Hedw	×	$\times \times$		×		×		×	M	×		×							×		×
fulvum Hook	×		×			×	\bowtie	××	MM		\times			××	××	×	\bowtie	\bowtie		×	×
fuscescens Turn.	; ×	X		××		: ×		<u> </u>	i	 1	: ×	<u></u>	× ×	: ×	* *	×		×	×	×	
muhlenbeckii B. S. G						: ×		: ×		. ×		×		××	: ×				: ×	: ×	
scoparium Hedw	X	X		×		X	\bowtie	×	XX	×	×	×	×	X	×	×	\bowtie	\bowtie	×	×	×
spurium Hedw		×						×	×	L.	×			×	×					×	
Oncophorus gracilescens (Web. & Mohr) Lindb polycarpus (Hedw.) Brid v. strumiferus (De Not.) Grout wahlenbergii Brid Oreoweisia serrulata (Funck) De Not	×	* ***			×		×	×	~	×	× ×	×	* *	×	1× ×	×	×			×	
Paraleucobryum longifolium (Hedw.) Loeske	×	×		×		×	×	×	H		×		×	×	×		×				1 1

	1 2 3 4 5	8 1 9	DISTRICTS (See Map)	Map)	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
DICRANACEAE					
Rhabdoweisia denticulata (Brid.) B. S. G	X X	X X	X X	X X X X	
LEUCOBRYACEAE					
Leucobryum albidum (Brid.) Lindbglaucum (Hedw.) Schimp	x x x x	XXXXX	X X X X	X X X X X	X X X X X X
CALYMPERACEAE					
Syrrhopodon floridanus Sulltexanus Sull					נינ
ENCALYPTACEAE					
Encalypta ciliata Hedw.	×	×	×	××	×
v. microstoma Schimpstreptocarpa Hedw	X X X X	x x x	×	x x	Г

			DISTRICTS (See Map)	(See M	ap)			
	1 2 3 4 5	5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	11 12 13	14 15	16 17 18 1	9 20	21 22 23 2	4 25 26
POTTIACEAE								
Acaulon rubrum (Röhl.) Groutrufescens Jaegr		×	×				,	X L
peckii (Sull. in Peck) Peck					×			
muhlenbergianum (Sw.) Grout			×	X	X	Λ	10	хх
Barbula convoluta Hedwfallax Hedw.	X	×	××	××	× × ×			J
reflexa (Brid.) Brid. unguiculata Hedw.	××			××	X	××	×	X
Bryoerythrophyilum recurvirostrum (Hedw.) Chen.*	XX	X X X	×	×	×	×	x	
Desmatodon obtusifolius (Schwaegr.) Jur porteri James in Aust	X		×	×				
rigidulus Hedwtophaceus (Brid.) Jurtrifarius (Hedw.) Brid	XXX	×	×	×	×××			

			DISTRICTS (See Map)	(See Ma	(dt		
	1 2 3 4 5	8 1 8	11 12 13	14 15	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	21 22 23 24 2	5 26
POTTIACEAE							
Gymnostomum aeruginosum Smith	X X X	X X X X X	××	××	X X X	X	
Hymenostylium recurvirostrum (Hedw.) Dixon*	X X X	XX	X	×	X X X	T X	×
rryopmia tortula (Schwaegr.) Hampe	×		×	×	Λ	×	
Phascum cuspidatum Hedwv.m.v. americanum Ren. & Card		X	X X X	×	X	X X	L
runcata (Hedw.) Fürnr		XXXX	X	X X X	x x x	×	V
fragilis (Hook. & Wils. ex Drumm.) Limpr humilis (Hedw.) Jenn.*	XX	X X	X	×	X X	×	X X
nitida (Lindb.) Brothtortuosa (Hedw.) Limpr	$X \times X \times X$	X X X	X	×	X X X	x x x	
Tortula intermedia (Brid.) Berkmucronifolia Schwaegrmuralis Hedw.	×	X	×	X	X X	XX	

			DISTRICTS (See Map)	ap)	
	1 2 3 4 5	9	11 12 13 14 15	16 17 18 19 20	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
POTTIACEAE					
Tortula—(Continued) papillosa Wils. in Spruceruralis (Hedw.) Smith	× × ×	×	××	×××	XX
tenuirostre (Hook & Tayl.) Lindb.*	×	×	×	×	×
Weissia controversa Hedw.*	$X \times X \times X$	$X \times X \times X$	x x x	X X X	X X X
GRIMMIACEAE					
Grimmia affinis Hornsch.* agassizii (Sull. & Lesq.) Lesq. & James. alpestris Nees. v. alpicola (Hedw.) Hartm.* v. ambigua (Sull.) Jones. v. conferta (Funck) Spreng. v. dupretii (Thér.) Sayre*. v. stricta (Turn.) Mitt.*. donniana Smith.	X	X X X X	X	× × × × × × × × × × × × × × × × × × ×	X X X

	1 2 3 4 5	6 7 8 9 10	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	ap) 16 17 18 19	20 21	22 23 24 25 26
GRIMMIACEAE					1	
Grimmia—(Continued) olneyi Sull. pillifera Palis. unicolor Hook.	××	×	X X	× × ×	×	XX
Rhacomitrium aciculare (Hedw.) Brid	× × ×	××	×	×	××	×
v. affine (Schleich.) C. Jens. v. gracilescens B. S. G v. ramulosum (Lindb.) Jones. v. sudeticum (Funck) Jones	X XX	X	××	×	××	×
DISCELIACEAE						
Discelium nudum (Dicks.) Brid				×		
EPHEMERACEAE						
Ephemerum cohaerens (Hedw.) Hampecrassinervium (Schwaegr.) C. Müll		×	T X	×		XX

DISTRICTS (See Map) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	- BPHEMERACEAE	Ephemerum—(Continued) X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X X	FUNARIACEAE	patens (Hedw.) Lindb	x	itrium i Hampe
	EPHEME	Ephemerum—(Continued) megalosporum (Aust.) S serratum (Hedw.) Ham spinulosum Schimp Nanomitrium austinii (Sull.) Lindb	FUNAR	Aphanorrhegma patens (Hedw.) Lindl serratum (Hook. & W	Funaria flavicans Michx flaviseta Warnst.* hygrometrica Hedw v. calvescens (Schr	Physcomitrium hookeri Hampeimmersum Sull

			DISTRICTS (See Map)	ap)	
	1 2 3 4 5	6 7 8 9 10	11 12 13 14 15	16 17 18 19 20	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
SPLACHNACEAE					
Splachnum ampullaceum Hedwrubrum Hedw.	**		×		
angustatus (Hedw.) B. S. Gmnioides (Hedw.) B. S. G	××		X	××	.10
SCHISTOSTEGACEAE					
Schistostega pennata (Hedw.) Hook. & Tayl	XX	X		X	
TETRAPHIDACEAE					
Tetraphis pellucida Hedw Tetrodontium (Dieles) Schusser *	X X X X X	x x x x	X X X X	X X X	XXXXX
BRYACEAE					
Bryum alpinum With angustirete Kindb.*	L	×	X X X X	XX	

DISTRICTS (See Map)	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	CEAE	X X X X X X X X X X X X X X X X X X X	March Schwaegr. Name N	chimp
		BRYACEAE	Bryum—(Continued) argenteum Hedw. caespiticium Hedw. capillare Hedw. cuspidatum (B. S. G.) Schimp. gemmiparum De Not. muhlenbeckii B. S. G.	pallens (Web. & Mohr.) Röhl	Leptobryum pyriforme (Hedw.) Schimp. Pohlia acuminata Hoppe & Hornsch. annotina (Hedw.) Loeske cruda (Hedw.) Lindb

				DIST	DISTRICTS (See Map)	See IV	(ab)						
	1 2 3 4	5 6 7	7 8 9 10	=	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	14 15	16 1	7 18	19 20	21 2	2 23	24	25 26
BRYACEAE												1	
Pohlia—(Continued) elongata Hedwfliformis (Dicks.) Andrews	××		X		×			i &	>				
nutans (Hedw.) Lindbpulchella (Hedw.) Lindb		×	××	××	×	$\times \times$	×	×	××	×	×	$\times \times$	X L X
sphagnicola (B. S. G.) Lindb. & Arn	X X X	$\frac{\times}{\times}$	x x x x	×	×	×		×	×		×	×	×
Khodobryum roseum (Hedw.) Limpr	$X \times X \times X$	×	$x \times x \times x$	×	×	x x	×	X	×	×		×	×
MNIACEAE										1	ł		
Mnium affin e Bla nd	XXXX	× ×	× × ×		×	××	×	×	×	×	××	\Join	
cuspidatum Hedwdrummondii B. S. Ghornum Hedw	X	× ×	× × × ×	XXT	X X L	××	×	××× ×××	× ×	K 7	× ×	× ×	× ×
hymenophylloides Hübenlongirostrum Brid.*		×	×	×		×	×	×	×	×	T	×	×
lycopodioides (Hook. in Brid.) Schwaegr medium B. S. G	X X X	××	XXX	NXK	×	××	××	×××	××				

									DIS	RIC	S. S.	DISTRICTS (See Map)	(lab									
	1 2	3	4	5 6	2 2	∞	6	10	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 2 5 26	12	13 1	4 15	16	17	18	19 2	0 2	1 22	2 23	24	25	56
MNIACEAE																	l					1
Mnium—(Continued) punctatum Hedw. v. elatum Schimp. serratum Brid.*. spinulosum B. S. G.	×	×××	XXXXX	× × × ×	× ×× ××	××	** *	×× ××	×××××		XXXXX	×××××	×	×××××	×××××	×	XXXXX	KII		××	××	×
AULACOMNIACEAE																						1
Aulacomnium androgynum (Hedw.) Schwaegr heterostichum (Hedw.) B. S. G palustre (Hedw.) Schwaegr turgidum (Wahlenb. in Web. & Mohr) Schwaegr	×	×	* * *		××	×	××	×	×××		××	x x x x	×	××	××	×	××	X X	××	××	××	××
· MEESIACEAE																						
Amblyodon dealbatus (Hedw.) Palis. Veesia longiseta Hedw triquetra (Hook. & Tayl.) Ångstr. uliginosa Hedw									×××		7	×	×		××							

	1 2 3 4 5	6 7 8	DISTRICTS (See Map)	s (See Ma 3 14 15	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	9 20	21 22 23	24 25 26	
MEESIACEAE									
Paludella squarrosa (Hedw.) Brid		X			X				
BARTRAMIACEAE									1
Bartramia ithyphylla Brid pomiformis Hedw Conostomum tetragonum (With.) Lindb.*	××	X X X	ХĽ	X X	X X X		×	×	
Philonotis americana Dism			L L L	X L	L X	××	11		
fontana (Hedw.) Bridlongiseta (Michx.) E. G. Britt.	X X X	X X X	×	X X ~	x x x	×	X X	X X	
v. porteri (Aust.) Flowersmarchica (Hedw.) Bridmuhlenbergii (Schwaegr.) Brid	X F	××	X X I	×	××	×	×		
Plagropus oederi (Brid.) Limpr	×	X X X	X	×	X	×	×	×	1

	1 2 3 4 5	6 7 8	DISTR1	DISTRICTS (See Map)	e Ma	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	20 2	1 22 23 24	1 25 26
TIMMIACEAE									
Timmia megapolitana Hedw		X X X	×	×	×	X X X		· ×	×
PTYCHOMITRIACEAE									
Campylostelium saxicola (Web. & Mohr) B. S. G							××		. ×
ORTHOTRICHACEAE						:			
Amphidium lapponicum (Hedw.) Schimpmougeotii (B. S. G.) Schimp.	××		×		×	××	××		
Drummondia prorepens (Hedw.) Jenn	×	L X	×	×	×	×	×		×
anomalum Hedwv. saxatile (Brid.) Milde	X	x x	×	×	×	×			
cupulatum v. nudum (Dicks.) Braithwelegans Hook. & Grevescurii Aust	X	X	××			ГХ	×		

	1 2 3 4 5	6 2 8 9	DISTRICTS (See Map) 10 11 12 13 14 15 16 17 18 19 20	(ap)	20 21 22	21 22 23 24 25 26
ORTHOTRICHACEAE						
Orthotrichum—(Continued) obtusifolium Brid ohioense Sull. & Lesq pumilum Dicks	XLX	× ××××	X X X X	×	X X X K	*** ***
sordidum Sull. & Lesq. ex Auststellatum Bridstrangulatum Palis	N L	×	X X X X	LXX	XX	
Ulota crispa (Hedw.) Bridhutchinsiae (Smith) Hammar*	X X X X X X	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	× × × ×	×× ××	X X X X X X
v. rufescens (E. G. Britt.) Paris ludwigii Brid		×× ×	×	× × ;	×	Γ
viridissimus (Dicks.) Brid	×			*		
Dichelyma capillaceum (Myrin) B. S. G. falcatum (Hedw.) Myrin pallescens B. S. G.	××	× × × ×	X X X X X	× × ×	×	X X X

	,	1	DISTRICTS (See Map)	(lap)	
	1 2 3 4 5	6 8 1 0	11 12 15 14 15	16 17 18 19 20	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
FONTINALACEAE					
Fontinalis antipyretica Hedw. v. gigantea Sull dalecarlica B. S. G	X X X	X X X	X X X I	X X X X X	X X X
disticha Hook. & Wils. in Drumm. duriaei Schimp.	×	X X	X X X X	××	X X X
lescurii Sull. novae-angliae Sull. v. cymbifolia (Aust.) Welch.	×	××	×× ××	**	× × × × ×
v. groutii Welch. v. latifolia Card. sullivantii Lindb.		×	r x	×	X r
CLIMACIACEAE					
Climacium acuminatum Warnst.*	×	X	×	×××	×
v. kindbergii Ren. & Card.* dendroides (Hedw.) Web. & Mohr.	× ×	: ×	×× ××	X X X X	XXXXX

			DISTRICTS (See Map)	See Ma	ap)		
	1 2 3 4 5	8 1 8	11 12 13	14 15	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	0 21 22 23 2	4 25 26
HEDWIGIACEAE							
Hedwigia ciliata (Hedw.) Palis	XXXXX	X X X X	X	×	XXXX	X X	X X X
LEUCODONTACEAE							
Forsstroemia trichomitria (Hedw.) Lindb.*		××	×	N	X	×	
Leucodon brachypus Brid julaceus (Hedw.) Sull sciuroides (Hedw.) Schwaegr	X X X	X X X X X X X X X X X X X X X X X X X	×××	X X	LEX	×× × ××	N L
NECKERACEAE							
Homalia jamesii Schimp.	XX	X	×	×	X X X	×	
complanata (Hedw.) Hübengracilis (James in Peck) Kindbpennata Hedwv. oligocarpa (Bruch) Grout	**	L K	X X X X	X X	X X X	N L	ı

				,	,		
	1 2 3 4 5	6 7 8	DISTR	DISTRICTS (See Map)	ap) 16 17 18 19	20	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
NECKERACEAE							
Porotrichum alleghaniense (C. Müll.) Grout	X X X		×	×××	×	×	×
LEMBOPHYLLACEAE							
Pseudisothecium myosuroides (Hedw.) Grout				×			
THELIACEAE							
Myurella julacea (Schwaegr.) B. S. G. sibrica (C. Müll.) Reim.*	××	×	×	× ×	XXX	×	
asprella Sullv. lescurii (Sull.) Habeeb*		X X X	××	X X X X X	X X X X X X	××	X X X X X X X X X X X X X X X X X X X
FABRONIACEAE							
Anacamptodon splachnoides (Froehl.) BridSchwetschkeonsis	××		×	×	×	×	×
denticulata (Sull.) Broth			۸.	~		×	×

mp.	X X X X X X X X X X X X X X X X X X X		8 X	9	DISTRICTS (See Map) 11 12 13 14 15 16 X X X X X X X X X X X X X X X X X X	13 14 13 14 X X X X X X X X X X X X X X X X X X	(Map) 15 16 X X X X X X X X X X X X X X X X X X	ap) 16 17 18 X X X X X X X X X X X X X X X X X X	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 X	V X X L	23 24 X X X	24 25 26 X X X
THUIDIACEAE		1					-					
(Brid.) C. Müll.*	X X X X	×		×	×	×	×	×	×	×		×
üben	XXX	× ;	×	×	×	× ×	× ×	××	××	×		×
minor (Palis,) Lindbrostratus (Hedw.) Schimp	× × × × ×	$\frac{\times}{\times}$	XXX			< × ×	X	XX			$X \times X \times X$	XX

				DISTRICTS (See Map)	TS (See	Map	<u></u>					
	1 2 3 4 5	6 7 8	9 10	11 12	13 14	15.	16 17 1	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	21 22	23 2	14 25	56
THUIDIACEAE						<u> </u>						
Anomodon—(Continued) rugelii (C. Müll.) Keissl	A X X X	×	X X	××	×	××	X X	x x			×	
Haplocladium microphyllum (Hedw.) Broth.*virginianum (Hedw.) Broth.*	*		T	××	L V	××	××	× ×	× ×		ГХ	
triste (Cesati) Kindb.*						×	×	×		, ,	X	
Helodium blandowii (Web. & Mohr) Warnst paludosum (Sull.) Aust	××	×	×	××	X X F X	××	××	×	*	×	X L	×
						+						
Heterocladıum squarrosulum (Voit) Lindb	>											
Kaujelia scita (Palis.) Reim.* Thuidium	XX		1	×	1	×	×	×	×		X	
allenii Austdelicatulum (Hedw.) Mitt	X X X	X X X	××	××	× ×	××	× × × ×	×××	X	×	×	×
philibertii Limpr	X X X				7	×		¥				

	1 2	3 +	5 6	7	∞	9 1(DIS	DISTRICTS (See Map)	s (Se 3 14	e M 15	ap)	17	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	0 2	1 22	23	24.2	55 2	26
AMBLYSTEGIACEAE																			1 1
Calliergonella cuspidata (Brid.) Loeske	×	X		×		×	×	J		$ \times $	×	×			X L			XX	1 ,,
Campylium chrysophyllum (Brid.) Bryhn hispidulum (Brid.) Mitt. polygamum (B. S. G.) Bryhn radicale (Palis.) Grout stellatum (Hedw.) Lange & C. Jens. v. protensum (Brid.) Röhl.	*	NN L	AAA A	× ××× ×	×	X XX A	XXX X			XXXXX	X > X	× ×××	** *	NNNN	N L NN	N N N	×× ×	l n x	×>
Cratoneuron commutatum (Hedw.) Roth filicinum (Hedw.) Roth			N X	X	×	×	~ ×		X	××	×	×	X			×	×	×	×
Drepanocladus aduncus (Hedw.) Warnst		XX	- 4	×	×	×	<u> </u>		×	××	×	×	×	>	×		. ,	×	×
v. kneiffii (B. S. G.) Mönkenexannulatus (B. S. G.) Warnst		××	ri ri	XX	\bowtie	X X X	XX		××	XXX	XX	×	×	×				H	×
	×	<	<u>'</u>	Þ	×	×			X	××	××		× ×	X	XX			×	×
revolvens (Turn.) Warnst		X X		4 ×		×	XXX		××			488		N N	1	×	1		1

					IG	DISTRICTS (See Map)) SIX	See	Mag	<u> </u>								
	1 2 3 4 5	9	7 8		10 1	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	13	14 1	5	6 1	7 18	19	20	21 2	2 2	3.2	1 25	26
AMBLYSTEGIACEAE																		
Hygroamblystegium fluviatile (Hedw.) Loeske	X	×			×	r	×	× ×	×	^	×		×	×	×	×	×	
noterophilum (Sull.) Warnst	x x x x x	×	×	\bowtie	××	××	$\times \times$		××	××	××	×	××	, ×		××	××	$\times \times$
Hygrohypnum closteri (Aust.) Groutdilatatum (Wils. ex Schimp.) Loeske	×				×	1					×		××					
eugyrium (B. S. G.) Loeskeluridum (Hedw.) Jenn.*	×			$\times \times$			××	××	××	×	imes		×					
molie (Schimp.) Loeske	×				<u></u>		-11			Y'1 Y			ķ					
novae-caesareae (Aust.) Groutochraceum (Turn.) Loeske	×				×	×	1	×	×	××	×		×х				×	
Leptodictyum riparium (Hedw.) Warnst.	X X X	×	×	×	×	X L	×	× >	×	×	×		×	\times	×	×		×
trichopodium (Schultz) Warnstv. kochii (B. S. G.) Brothvacillans (Sull.) Broth	4					I.		4		×						T	4 ×	
Platyhypnidium rusciforme (Hedw.) Fleisch.*	X X X	×		×		×	×	\vdash	×	^	×	×	×				-1	
Platylomella lescurii (Sull.) Andrews*	×				×								×				×	

Scorpidium Scorpioides (Hedw.) Limpr BRACHYTHECIACEAE BRACHYTHECIACEAE BRACHYTHECIACEAE BRACHYTHECIACEAE Gigastrum (Mitt.) Sull. campestre B. S. G. digastrum C. Müll. & Kindb. in Macoun. erythrorhizon B. S. G. flagellare (Hedw.) Jenn.* neythrorhizon B. S. G. oxycladon (Brid.) Jaegr. & Sauerb v. dentatum (Lesq. & James) Grout. v. dentatum (Lesq. & James) v. dentatum (Hedw.) B. S. G. v. rufescens B. S. G. v. rufescens B. S. G. reflexum (Starke & Web. & Mohr) B. S. G. rivulare B. S. G.	X X X X X X X X X X X X X X X X X X X	S 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	11 12 13 14 15 16	11 12 13 14 15 X	(gt 16 11 18 X X X X X X X X X X X X X X X X X	19 20 20 X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	X
rutabulum (Hedw.) B. S. Gsalebrosum (Web. & Mohr) B. S. G	X X X X X X X X X X X X X X X X X X X	X X X X X X X X X X X X X X X X X X X	××	××	x x r x x	××	L	××

	1 2 3 4 5	2 9	∞	10 OI	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	s (Se	e Ma	up) 16 1	7 18	19 20	21 3	22 23	24 2	25 26
BRACHYTHECIACEAE											n 1			
Brachythecium starkei (Brid.) B. S. G	××			×	×	××	××		XX	××		J.		×
Bryhnia angustifolia Warnst.*. sraminicolor (Brid.) Grout	×× ×	×	××	× ×	**	XX XX XX	××		××	×	××	×	× × × × × × × ×	× × ×
Camptothecrum nitens (Hedw.) Schimp		×	×	×	××	×	×	X	ų.			×		
Chamberlainia acuminata (Hedw.) Groutcyrtophylla (Kindb.) Grout	×		×	T X		×	××	×	X X X X		×		×	×
Cirriphyllum boscii (Schwaegr.) Grout piliierum (Hedw.) Grout			×		××	×	×		××	>	×	×	x x x x x x	×
Eurhynchuum pulchellum (Hedw.) Jenn.* v. praecox (Hedw.) Jenn v. robustum (Röll.) Jenn	X X X	×	X X X		××	X X X	×	×	XXX	×		ΓX	H	κı
v. scabrisetum (Grout) Ketchl					1								1	1

	1 2 3 4 5	6 7 8	DISTRIC 11 12	DISTRICTS (See Map)	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	20 21 2	2 23 24	. 25 26
ВВАСНУТНЕСІАСЕАЕ								
Homalotheciella subcapillata (Hedw.) Card				×	×	-		×
hians (Hedw.) Loeske*		X		X	×		L X	X X
serrulatum (Hedw.) Jaegr. & Sauerb.*	X X X X	X X	×	X X X	X X X	1	$X \times X$	X X
ENTODONTACEAE								
Entodon brevisetus (Hook. & Wils.) Jaegr. & Sauerb. cladorrhizans (Hedw.) C. Müll seductrix (Hedw.) C. Müll		x	LXX	**	X X T		X ~	×
Pleurozium schreberi (Brid.) Mitt.*	$X \times X \times X$	x x x	×	x	xxxx	×	×	X X X
Fterigynandrum filiforme Hedw.	X	X	Г		X X	110		
PLAGIOTHECIACEAE								
Plagiothecium denticulatum (Hedw.) B. S. G	X X X	X X	×	X X × -	X X X L	×	×	X X X

								-	OISTE	DISTRICTS (See Map)	(Sec	Ma	(d							
	1 2	3	4	2	9	∞		10	=======================================	2 13	14	15	16 1	7 18	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	20	1 22	23	24.2	32 20
PLAGIOTHECIACEAE				! 		ļ														
Plagiothecium—(Continued) elegans (Hook.) Sull		×	×	×			×	×	×	×			, ,	×		××			, ,	×
laebricola (Wils.) B. S. G. micans (Sw.) Paris v. groutii (Card. & Thér.) Grout								J	H	××	×	×				××	×		××	× × ×
muellerianum Schimppulchellum (Hedw.) B. S. G.		>	××				×	×	л×		×	×	X	××		××			i	
v. nitidulum (Wanlend.) Hushotroeseanum (Hampe) B. S. Gruthei Limpr		4	×						XL	۲.	×	×		×			××			ΓX
sublaicatum Austsylvaticum (Brid.) B. S. Gturfaceum (Lindb.) Lindb	×	×	××		××		×	××	л×		×	××	×	×× × ×		××	××		×	×
SEMATOPHYLLACEAE																				i
Brotherella delicatula (James) Fleischrecurvans (Michx.) Fleischtenuirostris (Schimp.) Broth	×	×	X X X	×	X X X X X X	×	×	××	×	X X X		××	× ×× ×	×××		×	×		×	X X X

						DIS	DISTRICTS (See Map)	Ts (See	Mag	3								
	1 2 3	4 5	6 7	∞	9 10	10 11 12 13	12	13	7	25	16 1	7 18	15 16 17 18 19 20	20	21 2	22 23 24	3 24	25	26
SEMATOPHYLLACEAE						<u> </u>				<u> </u>			,						
Heterophyllium haldanianum (Grev.) Roth	×	×	×		×	×		×	×	×	×	×		×		×	×	×	×
Sematophylum adnatum (Michx.) E. G. Britt carolinianum (C. Müll.) E. G. Britt marylandicum (C. Müll.) E. G. Britt					H	~ ~								××	×	×	XH	××	×
HYPNACEAE																			
Ctenidium molluscum (Hedw.) Mitt.*			×			×	×	\bowtie	×	×	×	×				×	×	H	\bowtie
Doncomeca striatella (Brid.) Loeske*	×	×			×	×		\bowtie		×	×	×		×	74	×	×	×	×
nomomalium adnatum (Hedw.) Broth	×		×		×		×	×	×	×	7	×			×	×	×	×	×
Hypnum cupressiforme Hedw	*	×××	××		××	×××		\bowtie	×	×××	nnn	×× ×××	×	×××	nnn	×××	××	$\times \times$	\bowtie
imponens Hedw lindbergii Mitt.*. v. americanum (Ren. & Card.) Whiteh v. demissum (Schimp.) Ketchl		×	××	××	××		×	XX 7	×		×			××			××	××	×

					DISTR	DISTRICTS (See Map)	e Ma	(d						
	1 2 3 4 5	5	7 8	9 10	111	10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	15	16 17	18 1	9 20	21 22	23	24 2	5 20
HYPNACEAE		1												
Hypnum—(Continued) v. elatum (Schimp.) Ketchl				×		ם		;		,				
pallescens (Hedw.) B. S. G pratense Koch reptile Michx	X X X X	×	×	X X	×	X X	××	XXX X	××	4 %	×	××		X X X
Platygyrium repens (Brid.) B. S. G	XXXXX	X		×	×	×	×	×	×	×	×		×	×
Ptilium crista-castrensis (Hedw.) De Not.*	X X X			X	×	×	×	×	×					×
Pylaisia intricata (Hedw.) B. S. G.	XX	×		×;		×	×	×;	×	×	×		×	×
polyantha (Hedw.) B. S. Gselwynii Kindbsubdenticulata B. S. G	×			X X	XXL	×	××	XXX	××	×	Γ		~ _	ΓX
Taxiphyllum deplanatum (Sull.) Fleisch.*			×	I	×	IJ	××	×	××	××				×
HYLOCOMIACEAE														
Hylocomium brevirostre (Palis.) B. S. Gpyrenaicum (Spruce) Lindb	X X X		×	×	××	X X X		××	×	×				1

	1 2 3 4 5	5 6 7 8 9	101	DISTRIC 11 12	DISTRICTS (See Map)	Ma ₁	(c)	18 19	20	DISTRICTS (See Map) 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	23 24	25 26
			ĺ									
HYLOCOMIACEAE												
Hylocomium—(Continued) splendens (Hedw.) B. S. G umbratum (Hedw.) B. S. G Rhytidiadelphus	×× ××	XX	××	XJ	×	×	××	×	××			×
squarrosus (Hedw.) Warnst. triquetrus (Hedw.) Warnst.	X X X X	×	××	××	××	××	××	××	××	×	Н	L
rugosum (Hedw.) Kindb	$X \times X \times X$		_	×	×	×	×	×	×			
BUXBAUMIACEAE						<u> </u>					1	
Buxbaumia aphylla Hedw subcylindrica Grout.	× × ×	X X L	77	××	×	××	X X X L	×	×	×		×
foliosum (Hedw.) Mohr	x x x	×	×	×	×	×	×	×	×	×	V L	X
POLYTRICHACEAE						<u> </u>						
Atrichum angustatum (Brid.) B. S. G. crispum (Iames) Sull.	X X X	X X	××	 ××	×	×	×	×	×	×	××	××
undulatum (Hedw.) Palis	×	XXX	×	×	XXXXX	×	×	$X \times X \times X$	×	×	×	X X

						٩	DISTRICTS (See Map)	s (S	ee N	(lap)									
	1 2 3 4	rv.	9	7 8		01	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26	13 1	4 1.	2 16	17	18	19 2	0 2	1 22	23	24	25	26
POLYTRICHACEAE														1					1
Pogonatum alpinum (Hedw.) Röhl	X X					×	×				×	×	×	<u> </u>	×				
capillare (Michx.) Brid pensilvanicum (Hedw.) Paris urnigerum (Hedw.) Palis	X X X			×	X X X	××	×	X X	×	×	X X X X	×	×	××	×	\times	\times	×	×
Polytrichum commune Hedw.	X X X	×	×	×	×	×	×	×	××	<u>×</u>	$\times \times$	×	×	×	×	· ×	×	×	×
gracile Smithjuniperinum Hedw.	\bowtie	×	×	×	×	NF		×			××	× ×××	×	<u> </u>	×		×	×	×
v. alpestre B. S. G ohioense Ren. & Card	x		XXX	×	××	××	< × ×	××	< × ×	<××	××	<××	^^	××	XX		$\times \times$	××	××
DESIDERATA																	1		
Aloina brevirostris (Hook. & Grev.) Kindb Brachydontium trichodes (Web. f.) Bruch Brothera leana (Sull.) C. Müll Bruchia longicollis Eaton Bryoxiphium norvegicum (Brid.) Mitt																			1

	DISTRICTS (See Map)	
	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
DESIDERATA		
Catoscopium nigritum Brid. Cinclidium stygium Sw Cratoneuron falcatum (Brid.) Roth. Cryphaea glomerata Schimp. in Sull. Desmatodon plinthobius Sull. & Lesq Dicranella squarrosa(Starke ex Schrad.)Schimp.		
Dicranodontium asperulum (Mitt.) Broth Dicranum groenlandicum Brid D. majus Smith Ditrichum flexicaule (Schwaegr.) Hampe Entodon compressus (Hedw.) C. Müll Eucladium verticillatum (Brid.) B. S. G. Fabronia ciliaris (Brid.) Brid		
Fissidens bushii Card. & Thér. F. closteri Aust. Funaria americana Lindb. Hookeria acutifolia Hook. in Schwaegr. Mnium pseudopunctatum B. S. G.* Nanomitrium synoicum (James) Lindb. Oncophorus rauei (Aust.) Grout.		

			DISTRICTS (See Map)	ap)	
	1 2 3 4 5	6 7 8 9 10	11 12 13 14 15	16 17 18 19 20	8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
DESIDERATA					
Oncophorus tenellus (B. S. G.) Williams					
Plagiobryum zierii (Hedw.) Lindb. Pleuridium acuminatum Lindb. P. ravenelii Aust. P. sullivantii Aust. Pohlia bulbifera (Warnst.) Warnst. P. longicolla (Hedw.) Lindb.					
P. rothii (Correns) Broth					
Seligeria tristichoides KindbSphagnum cyclophyllum Sull. & LesqS. erythrocalyx Hampe.					

			DISTRICTS (See Map)	4p)	
	1 2 3 4 5	6 7 8 9 10	11 12 13 14 15	16 17 18 19 20	9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
DESIDERATA					
Sphagnum portoricense Hampe					

19 20 21 22 23 24 25 26	
16 17 18	
10 11 12 13 14 15 16 17 18 19 20	
7 8 9 10	
2 3 4 5 6	
1	
ADDITIONS	

SYNONYMY

PAGE	CHECKLIST NAME	FLORA NAME
11	Sphagnum centrale	Sphagnum magellanicum (in part)
12	S. warnstorfianum	S. warnstorfii
13	Fissidens debilis	Fissidens Julianus
16	Dicranella schreberiana	Dicranella Schreberi
19	Bryoerythrophyllum	
	recurvirostrum	Didymodon recurvirostris
20	Hymenostylium recurvirostrum	Gymnostomum recurvirostrum
	Tortella humilis	Tortella caespitosa
21	Trichostomum tenuirostre	Trichostomum cylindricum
	Weissia controversa	Weisia viridula
	Grimmia affinis	Grimmia ovalis
	G. apocarpa v. alpicola	G. alpicola
	G. apocarpa v. dupretii	G. Dupreti
23	G. apocarpa v. stricta	G. apocarpa v. gracilis
24	Physcomitrium pyriforme	Physcomitrium turbinatum
24	Tetrodontium brownianum	Tetraphis Browniana
25	Bryum angustirete	Bryum pendulum
2.5	B. pseudotriquetrum B. uliginosum	B. bimum B. cernuum
	Pohlia delicatula	Pohlia carnea
26	Mnium longirostrum	Mnium rostratum
27	M. serratum	M. marginatum
28	Conostomum tetragonum	Conostomum boreale
30	Ulota hutchinsiae	Ulota americana
31	Climacium americanum v.	Ciota americana
01	kindbergii	Climacium Kindbergii
32	Forsstroemia trichomitria	Leptodon trichomitrion
33	Myurella sibirica	Myurella Careyana
	Thelia asprella v. lescurii	Thelia lescurii
34	Leskeella nervosa	Leskea nervosa
	Abietinella abietina	Thuidium abietinum
35	Haplocladium microphyllum	Thuidium microphyllum
	H. virginianum	T. virginianum
	Haplohymenium triste	Anomodon tristis
20	Rauiella scita	Thuidium scitum
38	Hygroamblystegium tenax	Hygroamblystegium irriguum
	Hygrohypnum luridum Platyhypnidium rusciforme	Hygrohypnum palustre
	Platylomella lescurii	Eurhynchium rusciforme Sciaromium lescurii
39	Brachythecium flagellare	
40	Eurhynchium pulchellum	Brachythecium plumosum
41	Oxyrhynchium hians	Eurhynchium strigosum
	Rhynchostegium serrulatum	Eurhynchium hians Eurhynchium serrulatum
	Pleurozium schreberi	Calliergonella Schreberi
43	Ctenidium molluscum	Hypnum molluscum
	Dolicotheca striatella	Plagiothecium striatellum
	Hypnum lindbergii	Hypnum arcuatum
44	Ptilium crista-castrensis	Hypnum crista-castrensis
	Taxiphyllum deplanatum	Plagiothecium deplanatum
	T. geophilum	P. geophilum
47	Mnium pseudopunctatum	Mnium punctatum (in part)
49	Weissia microstoma	Weisia microstoma

For the following species and variety, not listed in the Moss Flora, the references cited may be consulted:

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